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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/423,981 02/18/00 MURAMATSU

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EXAMINER

SAVAGE, J

ART UNIT

PAPER NUMBER

1775

DATE MAILED:

05/09/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/423,981

Applicant(s)

Muramatsu et al.

Examiner

Jason Savage

Art Unit

1775



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Feb 18, 2000
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☒ All b) ☐ Some* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 1 20) ☐ Other: _____

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Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation of a flame-spray aluminum-alloy, and the claim also recites particularly suited as sliding material which is the narrower statement of the range/limitation.
3. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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In claim 6, line 2, the phrase "a soft film" is indefinite since it can not be determined as to what does and what does not meet Applicant's definition of "soft".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (US 6,090,497).

Mori teaches a coated member wherein the coating is a wear resistant Al-Si alloy having a content of Si from 26-80 weight % and further containing fine Si particles from 0.01 to 10 μ m dispersed therein (col. 2, ln. 27-37). The wear resistant coating may also contain additional materials such as 0.05-10%Mg, 0.5-10%Cu, 0.1-20% Sn, and between 0.05-15% of Mn, Fe, and/or Ni (col. 3, ln. 1-8; col. 3, ln. 65 – col. 4, ln. 9). Mori further teaches that the wear resistant coating which is formed by thermally spraying is suitable for compressor parts such as in automobiles (col. 5, ln. 44 – col. 6, ln. 3).

Regarding the material ranges in claim 3, although the weight percentages of the additional materials are not within the exact same ranges claimed by Applicant, all of the

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material ranges taught by Mori overlap the material ranges claimed by Applicant which obviates claim 3.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (US 6,090,497) in view of Kawagoe et al. (US 5,864,745).

Mori does not teach the roughening of the substrate surface; however, it is well known in the art to roughen the substrate surface in order to improve the adhesion of the overlying coating. Kawagoe teaches a flame sprayed aluminum silicon alloy (col. 13, ln. 5-7) as well as shot blasting the substrate to roughen the surface before applying the wear resistant coating (col. 15, ln. 59 – col. 6, ln. 31). It would have been obvious to one of ordinary skill in the art at the time of the invention to have roughened the surface of the substrate prior to applying the wear resistant coating of Mori in order to have increased the adhesion between the substrate and the coating.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (US 6,090,497) in view of Wilkosz et al. (US 5,655,432).

Mori teaches what is set forth above but it does not teach a layer covering the outer surface of the wear resistant coating. However, it is known in the art to coat wear resistant components with lubricating coatings in order to improve the seizure resistance during dry conditions.

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Wilkosz teaches an aluminum-silicon swash-plate compressor which has a coating comprising a PTFE resin and lubricating particles such as carbon and MoS_2 dispersed therein (col. 3, ln. 38-60). This coating reduces the friction of the swash-plate and increases its durability (col. 3, ln. 5-8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have used the lubricating or friction reducing coatings of Wilkosz on the exterior surface of the coating taught by Mori in order to have improved the seizure resistance and to increase the durability of the swash-plate compressor, particularly during dry conditions.


8. Any inquiry to this communication or earlier communications from the Examiner should be directed to Jason Savage, whose telephone number is (703)305-0549. The Examiner can normally be reached Monday to Friday from 6:30 AM to 4:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Deborah Jones, can be reached on (703)308-3822.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703)308-2351.


Jason Savage

05-01-01


DEBORAH JONES
SUPERVISORY PATENT EXAMINER